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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/820,754	04/09/2004	Arnold R. Craven	P5630.0000/P029	8778
24998	7590	12/06/2005	EXAMINER	
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2101 L Street, NW			ART UNIT	
Washington, DC 20037			PAPER NUMBER	

3677

DATE MAILED: 12/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/820,754

Applicant(s)

CRAVEN, ARNOLD R.

Examiner

Flemming Saether

Art Unit

3677

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 September 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15, 17-19 and 21-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15, 17-19 and 21-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Claim Rejections - 35 USC § 102

Claims 7 and 11 are rejected under 35 U.S.C. 102(b) and being anticipated by Flückiger (US 6,068,303). Flückiger discloses a screw comprising a shank with a tip at one end and head (5) at an opposite end; a thread is provided on the shank (at 1) and a knurl (at 6) is provided between the thread and head which further includes a flute (8). There is provided a transition (at 4) between the knurl and thread.

Claim 12, 14 and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Searelle (US 877,131). Searelle discloses a screw comprising a shank with a tip (5) at one end and a head (2) at the other end with a circumferential lip (9); a thread (1) is provided on the shank; two flutes (4) are provided on the shank between the thread and head which inherently would include a transition section; and the head includes a rib (7) on a lower surface thereof.

Claim Rejections - 35 USC § 103

Claim 12, 14 and 17 are alternatively rejected under 35 U.S.C. 103(a) as being anticipated by Searelle (US 877,131) in view of Lieggi (US 5,518,352). Searelle discloses a screw comprising a shank with a tip (5) at one end and a head (2) at the other end with a circumferential lip (9); a thread (1) is provided on the shank; two flutes (4) are provided on the shank between the thread and head which inherently would include a transition section; and the head includes a rib (7) on a lower surface thereof. Searelle does not disclose the lip to be an uninterrupted circumferential lip. Lieggi

discloses a screw wherein the head includes an uninterrupted circumferential lip (26).

At the time the invention was made, it would have been obvious for one of ordinary skill in the art to provide the head of Searelle with an uninterrupted circumferential as disclosed in Lieggi because the lip provides an improved finish to the surface and disclosed therein.

Claims 1, 3-8, 10, 11-15, 17, 24 and 25-27 (some alternatively) are rejected under 35 U.S.C. 103(a) as being unpatentable over Searelle in view of Jones (US 471,179). Searelle discloses a wood screw comprising a shank with a self-drilling tip (5) at one end and a head (2) at the other end including a circumferential lip (9), a thread (1), two flutes (4) between the thread and head extending to a neck of the screw inherently including a transition to the thread; and a rib (7) on a lower surface of the head. Searelle does not disclose a knurled portion between the thread and head. Jones also discloses a wood screw having a shank with a tip (a), a head (c) and a thread (b) but, in Jones there is further provided a knurled portion (d) located between the thread and head which inherently must include a transition. In the embodiment of Fig. 6, the knurl is shown to have intersecting troughs. At the time the invention was made, it would have been obvious for one of ordinary skill in the art to provide the shank of Searelle with a knurled portion as disclosed in Jones in order to provide the screw of Searelle with a securement means to prevent slipping during rolling of the threads (see pg. 2, l. 11-20 in Jones). The "positive lock" as described in Jones would improve the rolling of the threads in Searelle by preventing the unwanted slipping of the rolling-dies.

Once the combination was made, the skilled artisan would have recognized to use the screw in particle board and polymer or bulging material because those materials are well known for screw attachment and therefore when a screw is inserted in those materials the result of the particle and bulge displacement would be inherent since the structure is the same as that claimed.

Claims 2 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Searelle in view of Jones or Searelle alone as applied to claims 1 and 12 above, and further in view of Köing (US 5,772,379). Searelle does not disclose the first and second different ribs. Köing discloses a screw including first (8) and second (9) different ribs on the underside of a head (1) and further discloses the head having a circumferential lip (5) one of the ribs extending to the shank (see Figs. 4 and 5). At the time the invention was made, it would have been obvious for one of ordinary skill in the art to provide the underside of the head of Searelle with ribs as disclosed in Köing in order to provide an improved countersink means by improving the cutting action and chip as discussed in Köing.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Flückiger or Searelle in view of Jones as applied to claim 7 above, and further in view of Farrell (US 4,653,244). Farrell teaches to provide the upper surface of a screw head with a roughened surface (at 18). At the time the invention was made, it would have been obvious for one of ordinary skill in the art to provide the screw of Flückiger or modified

Searelle with a roughened surface as disclose in Farrell so as to provide an improved adhesion surface for a joint compound or other covering material depending upon the application.

Claims 18, 19 and 21-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jones in view of Köing. Jones discloses a screw comprising a shank having a tip (a), a head (c), a thread (b) and, a knurled portion (d) between the head and thread with a transition but, does not disclose the underside of the head provided with a rib. Köing discloses a screw including first (8) and second (9) different ribs on the underside of a head (1) and further discloses the head having a circumferential lip (5) one of the ribs extending to the shank (see Figs. 4 and 5). At the time the invention was made, it would have been obvious for one of ordinary skill in the art to provide the underside of the head of Jones with ribs as disclosed in Köing in order to provide a countersink means. The countersink means would be advantageous in Jones to facilitate the formation of the countersink to allow the upper surface of the head to be flush with the surface.

Claims 10 and 21 are alternatively rejected under 35 U.S.C. 103(a) as being unpatentable over Searelle in view of Jones and Jones in view of Köing as applied to claims 7 and 18 respectively, and further in view of Lieggi. Lieggi discloses a screw wherein the head includes an uninterrupted circumferential lip (26). At the time the invention was made, it would have been obvious for one of ordinary skill in the art to

provide the head of modified Searelle or Jones with an uninterrupted circumferential as disclosed in Lieggi because the lip provides a further improved finish to the surface and disclosed therein.

Response to Remarks

The correct patent which was intended to have been listed on the form 1449 has been considered but, the examiner cannot correct the form. Instead, to make it of record, the reference has been listed on the accompanying form 892.

Applicant argues that claims 7 and 11 cannot be anticipated by Fluckinger because Fluckinger does not disclose the knurled portion but instead discloses "five ring-like projection". In response, while the examiner agrees with applicant's understanding of Fluckinger, the examiner disagrees with the conclusion, that the ring like projections are not a knurled portion. Webster's defines a knurl as "a series of small ridges" therefore, the ring-like projection are clearly inclusive of the definition of a knurled portion. Further, the claims do not require any specific structure of the knurled portion which would preclude the ring-like portion from reading on the "knurled portion".

Also, in regards to claim 7, applicant argues Fluckinger fails to disclose a flute in the knurled portion because the element labeled 8 in Fluckinger, which was equated to the flute, is not flute. In response, the examiner disagrees because although each ring has a "notch" 8 the array of notches extending along length of the knurled portion form a

“flute”. Furthermore, since each notch forming the flute is intended into the ring the flute they form would also be considered as being *in* the knurled portion.

Applicant next argues that claim 12 defines over Searelle since Searelle fails to disclose a circumferential lip on the lower surface of the head. In response, the examiner disagrees because, as recognized by applicant, Searelle disclose grooves 9 and it is these groove which the examiner equates to the claimed circumferential lip. Applicant notes that grooves end at blunt points 10 thus presumably applicant contends that a circumferential lip must be continuous. In response, there is no requirement that a “circumferential lip” must be continuous but, that notwithstanding, the reference to Lieggi has been applied since it unquestionably shows a circumferential lip (labeled 26) which is continuous.

Applicant separately argues claim 17 presumably because Searelle fails to disclose a “transition section”. In response, the examiner disagrees because there inherently must be some sort of “transition section” between any two elements.

Applicant next argues that combination of Searelle and Jones beginning with: there is no motivation for the combination. Applicant argues that it would be unreasonable motivation “to prevent unwanted slipping of the rolling dies” since no other screws available in the marketplace have knurls. In response, the fact that maybe no other screws have knurls does not take away the Jones’ disclosure that knurls provide

and improvement in that they prevent slipping of the dies. Perhaps the other manufacturers in the market place who are making screws simply do not know of Jones' technique or perhaps they choose not to use it since a little slipping not of concern in manufacturing screws for most application. Simply put, the fact that other manufactures fail to recognize the advantages of knurled portion does not preclude it from being a motivation for a combination.

Applicant argues the only motivation for the combination would be to ream out the hole which there would be not purpose in combining this feature with Searelle since the screw of Searelle is already self sufficient. In response, while the examiner does not agree that reaming function would be the only reason for the combination, the flutes of Searelle and knurs of Jones could individually function as intended in the combination suggested by applicant, for an overall superior screw. Indeed, addition of the knurling would not prevent the flutes from cutting into the wood as alleged by applicant since the flutes would continue beyond the knurls to the threaded portion where they still function to cut the wood and the knurls would continue to function as they were intended at their portion. It should be recognized that in Searelle, at what would be knurled portion there the flutes would not be doing any cutting since the hole has already been formed as the threaded portion. Lastly, it is not seen how the knurls would prevent the flutes from extending the length of the screw.

Applicant next argue that Searelle fails to teach a rib on a lower surface since the element labeled 7, which the examiner equates to a rib, is a plane portion which does not constitute a rib. In response, the examiner fails to see where the element labeled is defined as a "plane portion". Looking at lines 37-38 the element 7 is described as a "beveled" providing a "sharp cutting edge" that in addition to the showing of the figures is clearly inclusive of a rib.

Applicant's arguments in regards to claims 15 and 24 do not provide any specific arguments thus no response is believed necessary.

In regards to the method claims, the applicant again argues the combination would not have been obvious and that "recognized" is not supported by the MPEP. In response, the motivation for the combination has been addressed above thus the above response is applied here as well. The method claims only add that the screw is rotated into a particle producing material and since particle producing material are well know in the art and screws are also well known to be rotated into such material, such as for hanging drywall or for securing composite type decking, and since the screws of the applied prior art are also intended for insertion into particle producing material, such as wood, the skilled artisan would have recognized to use any of the screws of the prior art in the particle producing materials of the instant invention since the advantageous features of the screw(s) would be equally applicable to those material. Then when the screw is used in any one of particle producing materials of the instant invention, the flute

and knurls inherently would operate in the same manner since all the structures are the same.

Similarly, in regards to claim 25, the combination inherently would function in the same manner to displace the bulge by virtue of the screw of the combination having the same structure.

Applicant's subsequent remarks add no new arguments therefore no further response is believed necessary.

Conclusion


THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Flemming Saether whose telephone number is 571-272-7071. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Swann can be reached on 571-272-7075. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


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